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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,679	01/15/2002	Joseph Doyle	P67557US0	2286

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JACOBSON HOLMAN
PROFESSIONAL LIMITED LIABILITY COMPANY
400 SEVENTH STREET, N. W.
WASHINGTON, DC 20004

EXAMINER

FAISON, VERONICA F

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/045,679

Applicant(s)

DOYLE ET AL.

Examiner

Veronica F. Faison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-32 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: Applicant is missing a brief description of the drawings.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites a "chemical dye", however the Examiner is unclear as to what the difference is between a chemical dye and any other dye that may be present in an ink composition. Please clarify.

For the purpose of examination, the Examiner is interpreting a chemical dye as any dye that may be present in an ink composition.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-19 and 21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujioka (US Patent 5,405,438) in view of Smith et al (US Patent 5,747,395).

Fujioka teaches a hot melt ink for ink jet printer comprising a vehicle that is solid at normal temperatures and which melts and liquefies when heated above its melting point, a pigment and an aluminate coupling agent in an amount of about 1 to 50 weight percent, based on the weight of the pigment (abstract and col. 2 lines 30-35). The vehicle (carrier material) should have a melting point not lower than about 50°C, which includes petroleum waxes, polyethylene wax derivatives, stearic acid, and hydroxystearic acids wherein the waxes may be used alone or in combination of two or more (col. 2 line 41-col. 3 line10). The vehicle is present in the amount from about 50 to 99 percent by weight of the ink (col. 3 lines 26-28). The reference further teaches that useful additives such as self-adhesion or adhesion imparting agents, viscosity modifiers,

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heat characteristic modifiers, and surface tension modifiers may be added to the vehicle which may be present in the amount from 0 to about 49 percent by weight (col. 3 lines 20-25). The pigment is present in the vehicle and the type of pigment is not critical, and inorganic and organic pigments may be arbitrarily selected, which may be present in the amount from about 1 to 10 percent by weight. The reference teaches that for color control, dyes may be added to the pigments (col. 3 lines 29-44). The aluminate coupling agent is chemically bonded on the surface of the pigments to make the pigments into fine particles and to stabilize the dispersability of the pigments. The aluminate coupling agent is present in the amount from about 1 to 50 percent by weight based on the weight of the pigments (col. 3 line 49-col. 4 line 25). The hot melt ink may be prepared by initially, a vehicle, a pigment and aluminate coupling agent are mixed. The resultant mixture in a melted state is subjected to a dispersing machine such as a three-roll mill, an attritor, a ball mill or a colloid mill, thereby a dispersion. Finally, the dispersed composition in the form of a hot liquid is passed through a 10 μm or smaller mesh filter, to obtain a final ink (col. 4 lines 28-35). The reference fails to teach a fusible vitreous agent.

Smith et al teach a glass composition (fusible vitreous agent) which comprises 30 to 70 percent by weight of SiO_2 , 1 to 25 percent by weight of B_2O_3 , 0 to 10 percent by weight of Al_2O_3 , 0 to 5 percent by weight of Bi_2O_3 , 0.1 to 30 percent by weight of CoO , 0.1 to 20 percent by weight of ZnO , 1 to 30 percent by weight of at least one of Li_2O , Na_2O or K_2O , up to 10 percent by weight of ZrO_2 and other optional ingredients (abstract and col. 2 lines 30-64). The glass relies on the presence of CO^{2+} (pigment) in

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prepared by mixing together materials, charging the mixture of materials to a glass melting furnace at a temperature sufficiently high to produce the fluxed glass and then fritting the glass. The frit may be ground into a powder by conventional grinding techniques (col. 3 lines 32-40). The glass may be made into decoration printing ink or paste. To make the printing inks or pastes, a dry powder of the glass is dispersed in an oil-, water-, solvent- or wax-based medium with the aid of shear mixers and triple roll mills. The wax-based inks are more commonly used because of their thermoplastic nature (col. 3 line 61-col. 4 line 5).

Therefore it would have been obvious to one of ordinary skill in the art to use the glass composition of Smith et al in the ink composition of Fujioka, because Fujioka discloses that the type of pigment is not critical and Smith et al discloses that its glass composition (which is the fusible vitreous agent and pigment mixed together) may be used in a wax-based ink composition.

Allowable Subject Matter

Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The references alone or in combination fail to teach an ink composition wherein the solvent is selected from toluene or butyl acetate in view of the rest of the claim limitations.

Conclusion


The remaining references listed on forms 892 and 1449 have been reviewed by the Examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

The lined through reference EP 647885 A1 has not been considered, because there was no statement of relevance, English abstract or English translation present in the application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Veronica F. Faison whose telephone number is 703-305-3918. The examiner can normally be reached on Monday-Thursday and alternate Fridays 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on 703-308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Veronica F. Faison
May 18, 2003


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700